

31. (twice amended) The method as recited in claim 42 or 43 wherein each of [the] at least ten of the different materials comprise 4 or more components.

32. (twice amended) The method as recited in claim 42 or 43 wherein each of [the] at least ten of the different materials comprise 5 or more components.

33. (twice amended) The method as recited in claim 42 or 43 wherein each of [the] at least ten of the different materials comprise 6 or more components.

34. (twice amended) The method as recited in claim 42 or 43 wherein each of [the] at least ten of the different materials comprise 7 or more components.

35. (twice amended) The method as recited in claim 42 or 43 wherein each of [the] at least ten of the different materials comprise 8 or more components.

42. (amended) A method for making an array of diverse materials, the method comprising

forming ten or more inorganic materials [comprising two or more layers] on ten or more predefined regions of a rigid substrate, respectively, each of at least ten of the materials being different from each other and being formed by a method that comprises

delivering a first component [at least first and second components] of the material[s] to the respective predefined region[s] of the substrate to form a first layer of the first component on the substrate,

delivering a second component of the material to the respective predefined region to form a second layer of the second component on the first layer, and

varying the composition, concentration, stoichiometry or thickness of the delivered components between respective regions,

the substrate comprising a sufficient amount of space between the ten or more regions such that the delivered components do not substantially interdiffuse between the ten or more regions of the substrate.

B² cont

43. (amended) A method for identifying useful [evaluating an array of diverse] materials, the method comprising
making an array comprising ten or more different materials according to the method of claim 42, [and]
screening the at least ten different materials for a useful property of interest, and
determining the relative performance of the at least ten different materials with respect to the property of interest.

B³

64. (amended) The method of claims 42 or 43 wherein the components of the ten or more different materials are delivered as solids [materials].

65. (amended) The method of claims 42 or 43 wherein ten or more different materials are each formed by a method that comprises sequentially delivering the first component, the second component, a third component, and optionally additional components of the material to form three or more layers at the predefined region.

B⁴

68. (amended) A method for making an array of diverse materials, the method comprising
forming ten or more [solid] inorganic materials [comprising two or more layers] on ten or more predefined regions of a rigid substrate, respectively, each of at least ten of the materials being different from each other and being formed by a method that comprises
delivering a first component [at least first and second components] of the material[s] to the respective predefined region[s] of the substrate to form a first layer of the first component on the substrate,
delivering a second component of the material to the respective predefined region to form a second layer of the second component on the first layer, and
varying the composition, concentration, stoichiometry or thickness of the delivered components between respective regions.

69. (amended) A method for identifying useful [evaluating an array of diverse] materials, the method comprising
making an array comprising ten or more different materials as set forth in claim 68,
[and]
screening the at least ten different materials for a useful property of interest, and
determining the relative performance of the at least ten different materials with respect
to the property of interest.

70. (amended) A method for making an array of diverse materials, the method comprising
forming ten or more inorganic materials [comprising two or more layers] on ten or more predefined regions of a substrate, respectively, each of at least ten of the materials being different from each other, and being formed by a method that comprises
sequentially delivering five or more [at least first and second] components of the material[s] to the respective predefined region[s] of the substrate to form five or more layers of the delivered components, each of at least five [one] of the delivered components being an inorganic element or compound [material], and
varying the composition, concentration, stoichiometry or thickness of the delivered components between respective regions.

71. (amended) A method for identifying useful [evaluating an array of diverse] materials, the method comprising
making an array comprising ten or more different materials as set forth in claim 70,
[and]
screening the at least ten different materials for one or more useful properties of interest, and
determining the relative performance of the at least ten different materials with respect
to the property of interest.

Sub
PCF
72. (amended) A method for identifying useful [making an array of diverse] materials, the method comprising

forming one hundred or more solid inorganic materials [comprising three or more layers] on one hundred or more predefined regions of a rigid substrate, respectively, each of at least one hundred of the materials being different from each other and being formed by a method that comprises

delivering a first component [at least first and second components] of the material[s] to the respective predefined region[s] of the substrate to form a first layer of the first component on the substrate,

delivering a second component of the material to the respective predefined region to form a second layer of the second component on the first layer,

B⁴ cont
varying the composition, concentration, stoichiometry or thickness of the delivered components between respective regions, and

allowing the delivered first and second components of the material to simultaneously interact under a set of conditions,

the substrate comprising the at least one hundred material-containing regions at a density of greater than about 10 [1] regions per cm², the substrate further comprising a sufficient amount of space between the at least one hundred material-containing regions such that the delivered components do not substantially interdiffuse between the at least one hundred material-containing regions of the substrate,

screening the at least ten different materials for one or more useful properties of interest,
and

determining the relative performance of the at least ten different materials with respect to the property of interest.

B⁵
-- 74. (new) A method for identifying useful materials, the method comprising forming ten or more inorganic or non-biological polymeric materials on ten or more predefined regions of a substrate, respectively, each of at least ten of the materials being composite materials that are different from each other and being formed by a method that comprises

5

delivering a first component of the composite material to the respective predefined region of the substrate to form a first layer of the first component on the substrate, delivering a second component of the composite material to the respective predefined region to form a second layer of the second component on the first layer, and varying the composition, concentration, stoichiometry or thickness of the delivered components between respective regions, screening the at least ten different composite materials for one or more useful properties of interest, and determining the relative performance of the at least ten different composite materials with respect to the property of interest.

B5 cont.

75. (new) The method of claim 68 wherein the ten or more regions of the substrate are defined by chemical or physical barriers.

76. (new) The method of claim 68 wherein the ten or more regions of the substrate are defined by physical barriers selected from the group consisting of dimples, wells and vessels.

77. (new) The method of claims 42, 68 or 70 or 74 wherein the method for forming each of the at least ten different materials further comprises allowing the delivered first and second components of the material to simultaneously interact under a set of conditions.

78. (new) The method of claim 74 wherein the ten or more materials are inorganic materials.

79. (new) The method of claim 74 wherein the ten or more materials are polymeric materials.

80. (new) The method of claim 74 wherein the ten or more different inorganic or non-biological polymeric materials are formed on the ten or more predefined regions of the substrate to form an array of materials consisting essentially of the substrate and the ten or more different materials. --